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JERRY.SHORMA@HP.COM

ipa.mail@hp.com

laura.m.clark@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* BO SHEN, SONGQING CHEN, YONG YAN, and SUJOY BASU

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Appeal 2009-006673  
Application 10/687,997<sup>1</sup>  
Technology Center 2400

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*Before* JAY P. LUCAS, JOHN A. JEFFERY, and JAMES R. HUGHES,  
*Administrative Patent Judges.*

HUGHES, *Administrative Patent Judge.*

DECISION ON APPEAL<sup>2</sup>

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<sup>1</sup> Application filed October 17, 2003. The real party in interest is Hewlett-Packard Development Co. (App. Br. 2.)

<sup>2</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

## STATEMENT OF THE CASE

Appellants appeal from the Examiner's rejection of claims 1-7 and 9-14 under authority of 35 U.S.C. § 134(a). Claims 8 and 15 have been found to contain allowable subject matter. The Board of Patent Appeals and Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b).

We affirm.

### *Appellants' Invention*

The invention at issue on appeal relates to an apparatus (proxy server) and method for delivering content objects (e.g., video) over a network from servers to clients utilizing a caching system based on shared running buffers. A proxy server (proxy) having multiple running (moving-window) buffers services content requests to a content server (server) from various clients. The server delivers a first request for content through the proxy to a requesting client, and the content is simultaneously duplicated to a first circulating buffer that holds a moving window of the content – the buffer continuously adds new content and deletes the oldest (earliest) content. When the proxy receives a second request for the same content, it determines if the first buffer holds the beginning of the requested content, and if so, delivers the content to the second requesting client. Otherwise, the proxy opens a second buffer and services the request using both buffers to deliver the portions of the requested content they contain. The proxy may open multiple additional buffers depending on the size of the content, the size of the buffers, and the respective timing of requests. (Spec. 1:8-11; 3:15-32.)<sup>3</sup>

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<sup>3</sup> We refer to Appellants' Specification ("Spec."); Appeal Brief ("App. Br.") filed May 23, 2008; and Reply Brief ("Reply Br.") filed September 24,

### *Representative Claims*

Independent claims 1 and 2 further illustrate the invention, and are reproduced below with the key disputed limitations emphasized:

1. A network proxy server comprising:

a network connection configured to receive content-object requests generated by a plurality of clients, said content-object requests requesting a content-object from a server;

*a plurality of moving-window buffers coupled with said network connection, said plurality of moving-window buffers being configured to service said content-object requests; and*

*first and second content buffers coupled with said network connection, said first content buffer being configured to duplicate a first portion of a content passing from said server to said plurality of clients, cache said first portion, and provide said first portion to a subsequent client in response to a request for said first portion, and said second content buffer being configured to duplicate a second portion of said content and cache said second portion, and wherein said first and second content buffers are further configured to simultaneously provide said first and second portions of said content to said subsequent client in response to a request for said first and second portions.*

2. A method of delivering objects from servers to clients, said method comprising:

receiving a first request for a content object from a first client;

allocating a first running buffer;

*retrieving the content object as a datastream having a start point and inserting the datastream into the first running buffer while delivering the datastream to the first client;*

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2008. We also refer to the Examiner's Answer ("Ans.") mailed July 24, 2008.

when the first running buffer is filled, deleting data from the start point of the datastream while continuing to insert retrieved data into the first running buffer so that the first running buffer contains a moving window of the retrieved data;

receiving a second request for the content object from a second client;

if the second request is received while the start point of the datastream is still in the first running buffer, serving the content object directly from the first running buffer; and

if the second request is received after the start point has been deleted from the first running buffer, retrieving a portion of the content object that has been deleted from the first running buffer, commencing from the start point, and delivering the datastream while simultaneously delivering a different part of the content object from the first running buffer.

#### *Reference*

The Examiner relies on the following reference as evidence in support of the rejection:

Vahalia	US 5,933,603	Aug. 3, 1999
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#### *Rejection on Appeal*

The Examiner rejects claims 1-7 and 9-14 under 35 U.S.C. § 102(b) as being anticipated by Vahalia.

#### ISSUES

Based on our review of the administrative record, Appellants' contentions, and the Examiner's findings and conclusions, the pivotal issues before us are as follows:

1. Does the Examiner err in finding Vahalia discloses “a plurality of moving-window buffers . . . configured to service . . . content-object requests,” and “first and second content buffers” as recited in Appellants’ claim 1?

2. Does the Examiner err in finding Vahalia discloses “retrieving the content object as a datastream having a start point and inserting the datastream into the first running buffer while delivering the datastream to the first client” as recited in Appellants’ claim 2?

### FINDINGS OF FACT (FF)

We adopt the Examiner’s findings in the Answer and Final Office Action as our own, except as to those findings that we expressly overturn or set aside in the Analysis that follows. We also add the following factual findings:

#### *Appellants’ Specification*

1. Appellants do not explicitly define a “moving-window” buffer, but describe “moving-window” buffers synonymously with “running” buffers. (Spec. 1, ll. 10-11; 2, ll. 30-32; 11, l. 28-12, l. 3.) For example, Appellants explain that “[a] running buffer is used to store a sliding window of an on-going streaming session in the memory of the proxy” (Spec. 2, ll. 30-32); and “[a]n initial running buffer of a predetermined size is allocated to store a first amount of data from the content object. . . . [and] [t]he buffer contains a moving window of the retrieved data” (Spec. 11, l. 28-12, l. 3).

*Vahalia Reference*

2. Vahalia, in relevant part, describes video file server (content server) (element 20) including an integrated cached disk array (element 23) containing the content, and a cluster of stream servers (element 21) acting as a front end to the array. The random-access memory (RAM) in the stream servers “provides a large capacity cache memory for video applications” (col. 5, ll. 27-28). (Col. 5, ll. 5-57; Figs. 1, 2.) The data stored (cached/buffered) in the RAM of the stream server provides “a sliding ‘window’ into the movie” — “[n]ew data are added to each window, and old data are removed . . . at the rate at which data are delivered to the network clients.” (Col. 23, ll. 2-5.)

3. Vahalia also describes a process for servicing client content (video/movie) requests. (Col. 23, l. 1 to col. 24, l. 63; Figs. 16, 17.) Vahalia’s system “checks whether the desired starting time or position in the movie of [a] new request falls in the RAM window of the requested movie [stored] in the . . . stream server.” (Col. 24, ll. 6-8.) If the request falls within one of the RAM windows of the stream servers, and if the stream server “has sufficient resources to handle the client request,” (col. 24, ll. 26-27) then the system accepts the request and assigns it to the particular stream server. (Col. 24, ll. 8-29.) If the request does not fall within one of the RAM windows of the stream servers storing the content (movie) of interest, or if the particular indicated stream server does not have sufficient resources to accommodate the request, then the system opens a new RAM window in one of the streaming servers to service the request for the content (movie). (Col. 24, ll. 30-63.)

## ANALYSIS

Appellants separately argue independent claims 1 (App. Br. 9-11) and 2 (App. Br. 11-15) with respect to the Examiner's § 102 rejection of the claims. Appellants do not separately argue independent claim 9, dependent claims 3-7 (dependent on claim 2), nor dependent claims 10-14 (dependent on claim 9). Therefore, we select independent claims 1 and 2 as representative of Appellants' arguments and groupings with respect to the Examiner's anticipation rejection. 37 C.F.R. § 41.37(c)(1)(vii). *See In re Nielson*, 816 F.2d 1567, 1572 (Fed. Cir. 1987). We have considered only those arguments that Appellants have actually raised in their Briefs. Arguments that Appellants could have made but chose not to make in their Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants have the opportunity on appeal to the Board of Patent Appeals and Interferences (BPAI) to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (citing *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). The Examiner sets forth a detailed explanation of a reasoned conclusion of anticipation in the Examiner's Answer with respect to each of Appellants' claims (Ans. 3-13), and in particular claims 1 (Ans. 3-4, 10-12) and 2 (Ans. 4-5, 12-13). Therefore, we look to the Appellants' Briefs to show error in the proffered reasoned conclusions. *See Kahn*, 441 F.3d at 985-86.

### *Arguments Concerning the Examiner's Rejection of Representative Claim 1 Under § 102*

The Examiner rejects Appellants' independent claim 1 as being anticipated by Vahalia. (Ans. 3-4.) Specifically, the Examiner finds that



Vahalia discloses “stream RAM servers” that the Examiner finds are equivalent to Appellants’ recited “moving-window” buffers. (Ans. 3, 10-12.) The Examiner also finds that Vahalia discloses first and second content buffers. (*Id.*)

Appellants, on the other hand, contend that Vahalia “does not disclose a proxy server comprising ‘a plurality of moving-window buffers’ or ‘a first and second buffer’ [because]. . . . Vahalia [discloses] a system for utilizing the RAM of a stream server as a single sliding window.” (App. Br. 11; *see* App. Br. 10-11.)

We agree with the Examiner that Vahalia discloses the disputed features – “moving-window buffers” and “first and second content buffers.” Based on the record before us, we do not find error in the Examiner’s anticipation rejection of Appellants’ claim 1, essentially for the reasons espoused by the Examiner (Ans. 3-4, 10-12).

We find Vahalia describes stream servers each having RAM that provides a sliding window of streamed content (a movie). (FF 2, 3.) We find these stream server RAM windows are equivalent to Appellants’ recited “moving-window” (running) buffers (FF 1) in that each of the multiple RAM windows provide a sliding or moving window of streamed content. (FF 1-3.)

We note that the labels for Appellants’ recited buffers – “moving-window” and “first and second content” – merely constitute non-functional descriptive material. How the buffer may be named or labeled does not functionally change the buffer. The act of storing data in the buffers is the same regardless of how the buffers may be named, and “does not lend patentability to an otherwise unpatentable . . . product or process.” *Ex parte*

*Nehls*, 88 USPQ2d 1883, 1889 (BPAI 2008) (precedential). *See Ex parte Curry*, 84 USPQ2d 1272, 1274 (BPAI 2005) (informative), *aff'd*, No. 06-1003 (Fed. Cir. June 12, 2006) (Rule 36) (“wellness-related” data in databases and communicated on distributed network did not functionally change either the data storage system or the communication system used in the claimed method). *See also In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *Nehls*, 88 USPQ2d at 1887-90 (discussing non-functional descriptive material). Also, the recited functionality of the buffers is merely a statement of intended use of the buffers, which “usually will not limit the scope of the claim because such statements usually do no more than define a context in which the invention operates.” *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1345 (Fed. Cir. 2003). The claim recites a proxy server comprising buffers – these are apparatuses, not processes. Accordingly, if the prior art structure is capable of performing the intended use, it meets the claim limitation. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647, 1648 (BPAI 1987). Similarly, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997). “[A]pparatus claims cover what a device *is*, not what a device *does*.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990). Put simply,

how an apparatus invention is used is not germane to whether it is anticipated by the prior art.

Thus, we find that Vahalia anticipates Appellants' representative claim 1. We find Appellants' contrary arguments – that Vahalia describes reallocating stream server RAM to store a particular set of data, or reallocating a request to a different stream server RAM window (App. Br. 10-11) – unpersuasive for reasons discussed by the Examiner (Ans. 10-12; *see* FF 2, 3), and also because these arguments are not commensurate with the scope of Appellants' disputed claim limitations. Appellants' claim does not preclude reallocating buffers or reallocating requests to different buffers. Therefore, we find that Appellants do not provide any persuasive evidence or argument that Vahalia fails to disclose the disputed features.

*Arguments Concerning the Examiner's Rejection of  
Representative Claim 2 Under § 102*

The Examiner rejects Appellants' independent claim 2 as being anticipated by Vahalia. (Ans. 4-5.) Specifically, the Examiner finds that Vahalia discloses “retrieving the content object as a datastream having a start point and inserting the datastream into the first buffer while delivering the same datastream to the first client” (Ans. 4 (citing Vahalia – col. 18, l. 24 to col. 19, l. 32); *see* Ans. 12-13.)

Appellants contend that Vahalia

does not disclose a proxy server comprising “retrieving the content object as a datastream having a start point and inserting the datastream into the first running buffer while delivering the datastream to the first client” (emphasis added) as claimed. [Because] . . . Vahalia [discloses] a system in which a RAM window does not serve data to a client until it is filled. Specifically, . . . Vahalia disclose[s] that “a set of RAM

windows in the RAM 91, 92, 93, 94 of the stream server PCs (21 in FIG. 2) are allocated and loaded with the data for each popular movie before the client requests for the movie are received, so that when a client request for the movie is received, the client can be immediately supplied with a video stream starting at any desired time or position in the movie” (emphasis added; col. 24, line 64, through col. 25, line 4).

(App. Br. 14 (see App. Br. 12-15; Reply Br. 2-3).)

We agree with the Examiner that Vahalia discloses the disputed features of claim 2. Based on the record before us, we do not find error in the Examiner’s anticipation rejection of Appellants’ claim 2, essentially for the reasons espoused by the Examiner (Ans. 4-5, 12).

We find Vahalia describes saving a portion of content (a movie) to a streaming server RAM window and providing the cached portion of content to a client in response to a client request (Ans. 12; FF 2, 3), which we find is equivalent to Appellants’ disputed limitation – “retrieving the content object as a datastream having a start point and inserting the datastream into the first running buffer while delivering the datastream to the first client” – in that each RAM window provides a “sliding window” of the content that is streamed to the client (i.e., the window (RAM) receives new content and deletes old content at the same rate it delivers content to the client). (Ans. 12; FF 2, 3.)

Thus, we find that Vahalia anticipates Appellants’ representative claim 2. We find Appellants’ contrary arguments – that Vahalia describes loading the RAM windows prior to receiving client requests (App. Br. 12-14) – unavailing for reasons discussed by the Examiner (Ans. 12), and also because these arguments are not commensurate with the scope of Appellants’ disputed claim limitations. Vahalia not only describes filling

RAM windows prior to client requests, as pointed out by Appellants, but also filling the window and delivering the client request at the same time. (Ans. 12; FF 2, 3; Vahalia – col. 25, ll. 1-9, 30-36.) Appellants’ claim does not specify any particular order or timing for the steps and, contrary to Appellants’ assertions, does not preclude fulfilling a client request from/through a buffer (RAM window). Therefore, we find that Appellants do not provide any persuasive evidence or argument that Vahalia fails to disclose the disputed features.

Appellants do not separately argue independent claim 9, nor dependent claims 3-7 and 10-14 (*supra*). It follows that Appellants do not persuade us of error in the Examiner’s anticipation rejection of claims 1-7 and 9-14, and we affirm the Examiner’s rejection of these claims.

#### CONCLUSION OF LAW

Appellants have not shown that the Examiner erred in rejecting claims 1-7 and 9-14 under 35 U.S.C. § 102(b).

#### DECISION

We affirm the Examiner’s rejection of claims 1-7 and 9-14 under 35 U.S.C. § 102(b).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

Appeal 2009-006673  
Application 10/687,997

msc

Hewlett Packard Company  
Intellectual Property Administration  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, CO 80528